

a patient's multiple prior admissions. Our objective is to develop a model that predicts future admissions based on left ventricular ejection fraction (LVEF) and the occurrence of a CHF admission in the preceding quarter. Another objective is to use this model to examine, in a managed care setting, the cost-benefit of the following CHF management strategies: ACE inhibitor therapy, beta blocker therapy, CHF disease management, and intensive case management. **METHODS:** We constructed a Markov model to project the medical and non-medical costs for a cohort of CHF patients in a commercially insured population. The model defines four disease states based on LVEF status (normal vs. low) and a prior admission (yes vs. no) in the preceding quarter. The probability of a future admission depends on the patient's disease state as well as age and gender. Plan-specific CHF admission probabilities were calibrated using claims analyses. Each intervention is assumed to change health service utilization patterns and improve survival. Cost-benefit is expressed as net savings in medical and non-medical costs. **RESULTS:** For a population of 100,000 commercially insured individuals, CHF case rate and medical costs are predicted to increase steadily over the next 5 years. Intensive case management appears to be the most cost-beneficial intervention, with an estimated per member per month (PMPM) net savings of \$0.11 in the first year. Beta blocker therapy is expected to save \$0.08 in the first year, while ACE inhibitors and CHF disease management show net positive savings starting year 2. All interventions remain cost-beneficial when non-medical savings are eliminated from the analyses. **CONCLUSIONS:** The four CHF management strategies modeled are not only effective in improving clinical outcomes; they are also predicted to be cost-beneficial in a managed care setting.

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EVALUATION ON THE COST OF MANAGEMENT OF ACUTE MYOCARDIAL INFARCTION IN A LOCAL PUBLIC HOSPITAL IN HONG KONG

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OBJECTIVES: Coronary artery disease (CAD) is the second most important disease resulting in mortality in Hong Kong. The most severe manifestation is acute myocardial infarction (AMI). Both treatment and cardiac rehabilitation for AMI are costly. Cost of management of AMI is an important baseline information for better planning under scarce allocation of medical resources. The present study aims to evaluate the cost of management of explicit Q-wave AMI in a local public hospital in Hong Kong. **METHODS:** A retrospective study was performed on patients admitted to the United Christian Hospital. The study cohort consisted of one hundred patients

admitted to Coronary Care Unit who were aged 18 year old or above with a diagnosis of Q-wave AMI from 1 January 2000 to 31 December 2000. Cost items studied included hospital stay, outpatient clinic visits, diagnostic tests, medications, and percutaneous coronary interventions. **RESULTS:** Ninety-eight case notes (2 case note were incomplete) were evaluated. The average annual medical cost per patient for AMI management in this population was USD \$8990 (1 US \$ = 7.8 HK\$). The total annual cost per patient per year increased with the complexity of the disease—from USD \$7320 for non-fatal MI without procedure, USD \$10,963 for non-fatal MI with angiogram, to USD \$12,030 for non-fatal MI with procedure. Based on the local epidemiological data, the prevalence rate of CAD is 2.2% and assuming 3% of patients may experience AMI with medical care, the estimated total cost of AMI management in Hong Kong was USD \$45 million per year, or 0.5% of the 2000–01 healthcare expenditure. **CONCLUSIONS:** The present study provides information of the cost of AMI management in Hong Kong. It confirms that AMI management is a significant burden to the healthcare budget. Public awareness on CAD and implementation of appropriate health measures should be reinforced.

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HOSPITALIZATION EXPENDITURE OF ACUTE RHEUMATIC FEVER AND CHRONIC RHEUMATIC HEART DISEASE IN THE UNITED STATES

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OBJECTIVE: To determine the impact of acute rheumatic fever (ARF) and chronic rheumatic heart disease (CRHD) on hospital expenditure in the United States. **METHODS:** This study analyzed data from the Healthcare Cost and Utilization Project (2000) funded by the Agency for Healthcare Research and Quality. Hospitalizations due to ARF and CRHD were identified using ICD-9 codes 390–398 as principal diagnoses. **RESULTS:** In 2000, there were approximately 1226 and 44,659 hospitalizations due to ARF and CRHD, respectively. Females accounted for about 58% of all hospitalizations due to ARF, and 63% due to CRHD. The elderly aged 65 years and older accounted for 74% of the hospitalizations due to CRHD, followed by adults aged 35–64 years (24%). The two most common comorbid conditions associated with CRHD were atrial fibrillation (49%) and hypertension (34%). The two most common procedures performed during CRHD hospitalizations were extracorporeal circulation for open heart surgery (10%) and diagnostic ultrasound of the heart (7%). The mean (and median) length of hospital stay for ARF and CRHD was 7.5 (5) and 7.9 (6) days, respectively. Average charge per hospital stay was about \$29,500 for ARF and